



Green Skills

INTRODUCTION

The environment around us affects all aspects of our life; and all our day-to-day activities also affect the environment. Those who live in cities get their food supply from surrounding villages and in turn, are dependent on forests, grasslands, rivers, seashores, for resources, such as water, fuel wood, fodder, etc. We use natural resources for food. Everything around us forms our environment and our lives depend on the natural world around us.

Over the years, with economic development, there has been an increase in environmental pollution. For example, with the introduction of high input agriculture, we can grow more food by using fertilisers, pesticides and hybrid crops. But it has led to soil and environmental degradation. We need to plan the use of resources in a sustainable manner so that we and our future generations can enjoy the good environment

SESSION 1: SUSTAINABLE DEVELOPMENT

Are we planting more trees or are we only destroying them for our use? Are we saving the water resources

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or just polluting them with garbage? Are we using clean energy or are we burning wood and petrol and adding to pollution? Are we giving back to nature so that our future generations may thrive or are we simply using the air, water and soil available without leaving anything for the future generations to come? If the answer to all these questions is yes, then we are only thinking about our immediate development and not the long-term development.

What is Sustainable Development?

Sustainable development is the development that satisfies the needs of the present without compromising the capacity of future generations, guaranteeing the balance between economic growth, care for the environment and social well-being.

Importance of Sustainable Development

Economic development is using up resources of the world so quickly that our future generations, the young people of the world, would have serious environmental problems, much worse than those that we are facing at present. With increasing population and income, the consumption of goods is increasing day by day. This has led to increase in production and utilisation of natural resources, which are required for producing goods. Society must thus change its development strategy to a new form where development will not destroy the environment. This form of sustainable development can only be brought about if each individual practices a sustainable lifestyle. Since most of the natural resources are scarce, therefore, careful utilisation of resource is necessary.

Sustainable development is defined as ‘development that meets the needs of the present without compromising the ability of future generations to meet their own needs’ (World Commission on Environment and Development, 1987). For example, sustainable agriculture consists of environment friendly methods of farming that allow the production of agricultural crops or livestock without damage to human or natural systems. It also involves preventing the use of

chemicals so as to avoid adverse effects to soil, water and biodiversity.

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Problems Related to Sustainable Development

Three major problems related to sustainable development are:

- (a) **Food:** The amount of rich, fertile land needed to grow crops, such as wheat, rice, etc., is becoming less as we are using up more and more land for other purposes. Soil nutrients are also getting depleted and lots of chemicals are spoiling the soil due to use of chemical fertilisers.
- (b) **Water:** We use fresh water from rivers and ponds for drinking and cleaning but dump garbage into them. The rivers and ponds are getting polluted. This way after several years, we will have no clean water for our use.
- (c) **Fuel:** We are using a lot of wood from trees as fuels and for construction of homes and furniture. As more and more trees are being cut, it is affecting the climate of the place. Extreme weather conditions, such as floods, extreme cold or heat, are seen in many places, which affect the people living there.

An environment friendly way for production of power is using solar energy or energy from the sun which is unlimited. One major example of large scale production of solar power is seen in Charanka — Gujarat Solar Park. This barren land with wild vegetation has a mega solar power plant of 600 MW. This has reduced the dependence on non-renewable fossil fuels in Gujarat. The people of Charanka have benefited as they have a good source of income and this will also help future generations in the next 40–50 years to come

Sustainable development includes

- reducing excessive use of resources and enhancing resource conservation;
- recycling and reuse of waste materials;
- scientific management of renewable resources, especially bio-resources;
- planting more trees;

- green grassy patches and trees to be interspersed between concrete buildings;
- using more environment friendly material or biodegradable material and
- use of technologies, which are environmental friendly and based on efficient use of resources.

Sustainable Development Goals

The Sustainable Development Goals (SDGs) are a universal call of action to end poverty, protect the planet and ensure that all people enjoy peace and prosperity. The Sustainable Development Goals (SDGs) were launched at the United Nations Sustainable Development Summit in New York in September 2015, forming the 2030 Agenda for Sustainable Development. It has set targets that the countries have to should work towards and achieve by 2030.

The 17 SDGs have been made with the aim to take care of important issues facing businesses, governments and society. Some of these issues are poverty, gender equality, water use, energy, climate change and biodiversity. Countries are now making policies and regulations that will promote sustainable systems needed in all economic sectors to provide a secure, affordable and sustainable economy.



Fig. 5.1 Sustainable Development Goals

The core skills required by a person who wants to contribute towards environment include environmental awareness and willingness to learn about sustainable development. If we are responsible about our life, then we will do our best at home, in school and at our workplace to help the environment and the people around us.

Sustainable Development Initiatives

When plastics were banned by the municipal corporation of Mangalore, an innovator and entrepreneur Mr Avasth Hedge found an eco-friendly alternative. He made a 100 per cent bio-degradable bag which can dissolve in hot water and decompose in natural environment. This is now being used in many countries and is going to help the environment.

Another innovative idea was to stop the use of plastics spoons, forks, etc. Narayana Peesapaty made edible cutlery made out of a grain — these spoons can be eaten and even if they are not eaten they will easily decompose in the soil enriching it. <<https://www.ibef.org/Innovations-from-India.aspx>>

Sustainable Processes

Some practices, such as organic farming, vermi-composting and rainwater harvesting are being used to help preserve the environment.

Organic farming is where farmers do not use chemical pesticides and fertilisers to increase their production. They use organic and natural fertilisers, such as cow dung to help in growing crops. This helps in better quality chemical free crops while at the same time maintaining the soil quality for future use. This is a true example of sustainable development where we are not only using the earth resources but are also preserving it for our future generations.

Practical Exercise

Activity 1

Create a Garden in School or Plant Trees

Material required

Seeds, garden waste, sprinkler, gardening tools

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Procedure

- Form groups depending on the number of students available. Ask teacher to allot a piece of land in the school premises.
- Assign different tasks to different groups of students.
- The tasks can be ploughing, sowing seeds, making manure using vermicomposting and setting up a sprinkler system to water the plants.

Activity 2

Discussion on How to Prevent Wastage.

Procedure

- Form groups depending on the number of students available.
- Every student in the group will name way in which wasting of water and food can be stopped or prevented.
- Make a list and share it with the rest of the class.

Check Your Progress

A. Multiple choice questions

Read the questions carefully and circle the letter (a), (b), (c) or (d) that best answers the question.

1. How many sustainable development goals are given by the United Nations?
(a) 18
(b) 17
(c) 15
(d) 20
2. Choose the option which defines sustainable development.
(a) Taking care of future generations
(b) Taking care of only ourselves
(c) Taking care of ourselves and the future generations
(d) Well-being of all
3. Which organisation has made the Sustainable Development Goals.
(a) United Nations
(b) League of Nations
(c) UNICEF
(d) World Health Organisation

B. Subjective questions

1. What is the meaning of sustainable development?
2. Why do you think the United Nations has made the 17 Sustainable Development Goals?

What Have You Learnt?

After completing this session, you will be able to

- define sustainable development.
- identify the goals of sustainable development.

SESSION 2: OUR ROLE IN SUSTAINABLE DEVELOPMENT

Increasing population and development has led to the increase in consumption of the natural resources. The more the population, the more food, energy and water we need. When we grow more crops, the soil's nutrients are consumed and slowly the soil becomes unusable. Similarly, if we continue to use fossil fuels, such as coal, oil and natural gas, very soon we will run out of these natural resources.

We use so many resources from nature but what do we give back to nature? Factories give out smoke that pollutes the air. Garbage collected from homes is dumped into landfills. Untreated garbage can lead to disease and unhealthy environment. Sewage from the cities is dumped into the seas and lakes making it unsafe for marine life. This shows that though we are using the natural resources, we are doing nothing to return or give back to nature. Natural resources are limited and with time they will get over and if we do not do anything about it, our future generations will not be able to survive.

One initiative was taken by Ministry of Railways in Varanasi and Raibareilly where they introduced clay pots '*Kulhads*' to replace plastic and paper cups and to bring back taste of tradition. Three major advantages gained by using '*Kulhads*' are to

1. reduce cutting of tree for making paper cups.
2. job creation for potters, which contributes to economy.
3. reduce plastic waste.

Our Role towards Sustainable Development

United Nations has formed 17 Sustainable Development Goals (SDGs) so that countries and nations can work

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towards finding a solution to the growing problems in the world. Countries should form rules and guidelines to remove poverty and hunger and provide good health and quality education. These goals have been made so that all the nations take action to protect our air, water and land from pollution and provide clean water, air and energy to all people.

Sustainable development can actually happen only when each one of us works towards it. We have to become responsible environment citizens who can protect the environment through our own efforts.

Here are some basic ways in which people can help towards Sustainable Development Goals.



Quality Education

Education is the most important factors for sustainable development. Children who have gone to school will be able to do jobs so that they can take care of themselves and their families. Education helps us become aware of our role as a responsible citizen. We should

1. use the facilities present in our areas.
2. take our friends to school.
3. help friends study.
4. stop friends from dropping out of school.



Clean Water and Sanitation

We must make efforts to make India free of open defecation by building toilets and creating awareness



towards sanitation. Industrial pollution is polluting our water resources, which in near future will cause scarcity of clean drinking and usable water. We must take measurable steps by promoting awareness to keep water sources clean.

Affordable and Clean Energy

Using solar power i.e., power generated using the sun does not cause pollution as it does not require burning of non-renewable fuels, such as coal. We are making efforts to increase the solar power generation so that our electricity needs are met and at the same time we do not pollute the environment or use up natural resources. Use of biogas is also an eco-friendly alternative to natural gas.



Decent Work and Economic Growth

We can

- (a) study and find good jobs to take care of ourselves and our families.
- (b) work hard and contribute to society.
- (c) learn and develop skills so that we get add value in our community.

Reduced Inequalities

To reduce inequalities we can

1. be helpful to one another.
2. be friendly with everyone.
3. include everyone while working or playing.
4. help others by including everyone whether they are small or big, girl or boy, belong to any class or caste.

Sustainable Cities and Communities

Creating Sustainable Cities

1. Save energy by switching off lights and fans when not in use.
2. Use natural light as much as possible.
3. Use energy efficient lights (LED bulbs) and appliances.





Responsible Consumers and Producers

We can become responsible about our own environment by

1. reusing paper, glass, plastic, water, etc.
2. taking cloth bags to market carrying fruits and vegetables.
3. donate things we do not use such as clothes, books, furniture, food, etc.
4. Buy and eat seasonal fruits and vegetables from local growers.
5. Repair leaking taps and pipes to avoid wasting water.
6. Sort and treat garbage before disposing.

Protect Life Below Water

Tons of plastic is found in the seas, which is killing marine life. Protecting marine life, saving our oceans from pollution is necessary to preserve the marine life.

Protect Life on Land

Cutting of trees is leading to soil erosion and making land dry and unusable for cultivation. Planting more tree to replace the ones that we have cut is an important step towards sustainable development.

Practical Exercise

Activity 1

Group Discussion

Procedure

- Form groups depending on the number of students available.
- Every student will describe one way in which they can work to conserve and protect the environment.
- Make a list and share it with the rest of the class.

Activity 2

Make art project using waste

Material required

Plastic bags, used bottles, papers cups, paper, wire, etc.

Procedure

- Form groups depending on the number of children available. Make a list of waste material that is thrown away. Now think of creative ideas in which you can use the waste material to make something useful.

If time permits, every student can get some waste material from home, such as old newspapers, plastic bottles, old cloth, etc., and make the best out of waste (a painting, wall decoration or a bag). Have an exhibition at the front gate of your school.

Check Your Progress**A. Multiple choice questions**

Read the questions carefully and circle the letter (a), (b), (c) or (d) that best answers the question

1. Which of the following sources of energy is from a renewable source?
 - (a) Solar energy
 - (b) Wood
 - (c) Coals
 - (d) Petrol
2. Choose the option which is not a sustainable development goal according to United Nations.
 - (a) Clean Water and Sanitation
 - (b) Gender Equality
 - (c) Population
 - (d) Reduced Inequalities

B. Subjective questions

1. List some ways in which we can use resources sensibly.
2. Explain the importance of education towards sustainable development.

What Have You Learnt?

After completing this session, you will be able to

- explain the importance of our role in sustainable development.
- identify how we can contribute towards sustainable development.